

Review of the species of *Platypalpus* Macquart from Guangxi, China (Diptera, Hybotidae, Tachydromiinae)

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Review of the species of *Platypalpus* Macquart from Guangxi, China (Diptera, Hybotidae, Tachydromiinae). - The species of the genus *Platypalpus* Macquart from Guangxi (Southern China) are reviewed. The following 3 species are described, illustrated and discussed: *P. alamaculatus* sp. n., *P. maoershanensis* sp. n., *P. xanthodes* sp. n. A key to the species of *Platypalpus* from Guangxi is presented.

Keywords: Hybotidae - Tachydromiinae - *Platypalpus* - Guangxi - new species.

INTRODUCTION

Platypalpus Macquart is one of the largest genera of the subfamily Tachydromiinae (Hybotidae). It can be easily recognized by the following characters: eyes narrowly separated on face, mid leg raptorial, and anal cell present (Chvála, 1975; Grootaert & Chvála, 1992). The genus has a worldwide distribution and its center of diversity seems to be the Western Palaearctic region with some 250 described species (Chvála & Kovalev, 1989; Grootaert & Chvála, 1992). In contrast, only some 31 species were described from the Oriental region up to 1975 (Smith, 1975). Since then, 25 species from China have been added by Yang, D. & Yang, C. (1989, 1990, 1992, 1997), Yang, C. & Yang, D. (1992), Saigusa & Yang (2002), Yang *et al.* (2002). Therefore, 33 species of *Platypalpus* have been reported from China. The major references dealing with *Platypalpus* are as follows: Brunetti, 1920; Frey, 1943; Smith, 1965; Chvála, 1975, 1989; Grootaert, 1984; Grootaert & Chvála, 1992.

The genus *Platypalpus* from Guangxi (Southern China) is poorly studied with only *Platypalpus guangxiensis* Yang & Yang, 1992 known from this province. In the present paper, three species are described as new to science, based on the specimens collected by Ms Shuwen An and Mr Xingyue Liu by sweep net and light trap in 2003. A key to all four species from Guangxi is presented.

MATERIAL AND METHODS

The specimens on which this study is based on are deposited in the following collections:

CAU = Insect collection of China Agricultural University, Beijing, China

MHNG = Muséum d'histoire naturelle, Genève, Switzerland

In order to allow an easy comparison of descriptions of various authors, the terminology of morphological terms follows generally Grootaert & Chvála (1992), except for crossveins which are written in capitals.

The following abbreviations for bristles are used: acr-acrostichial, ad-antero-dorsal, av-anteroventral, dc-dorsocentral, h-humeral, oc-ocellar, npl-notopleural, pd-posterodorsal, psa-postalar, pv-posteroventral, sa-supraalar, sc-scutellar, vt-vertical.

KEY TO THE SPECIES OF *PLATYPALPUS* FROM GUANGXI

- 1 Thorax mainly yellow; wing without dark spots; mid femur entirely yellow . . . 2
- Thorax black; wing with brown spot between Costa and R-M (Fig. 1);
mid femur black with yellow tip *alamaculatus* sp. n.
- 2 Mesonotum entirely yellow 3
- Mesonotum yellow with rather large black mid-longitudinal spot
. *maoershanensis* sp. n.
- 3 Scutellum yellow; apical projection of right genital lamella with wide
obtuse apex (Fig. 11) *xanthodes* sp. n.
- Scutellum black; apical projection of right genital lamella with acute
apex *guangxiensis* Yang, C. & Yang, D., 1992

SPECIES TREATMENT

1. *Platypalpus alamaculatus* sp. n.

Figs 1-5

MATERIAL

Holotype ♂, CHINA: Guangxi: Maoershan National Nature Reserve, 1100-1600 m, 29.VI.2003, Xingyue Liu (CAU).

Paratypes: 5♂♂, 7♀♀, same data as holotype (CAU); 5♂♂, 10♀♀, Guangxi: Maoershan National Nature Reserve, Hongjunting, 1600 m, light trap, 28.VI.2003, Xingyue Liu (CAU); 3♂♂, 3♀♀, Guangxi: Maoershan National Nature Reserve, Sanjiangyuan, 1900 m, light trap, 30.VI.2003, Xingyue Liu (MHNG); 4♂♂, 1♀, Guangxi: Maoershan National Nature Reserve, Sanjiangyuan, 1900 m, light trap, 30.VI.2003, Shuwen An (CAU).

ETYMOLOGY

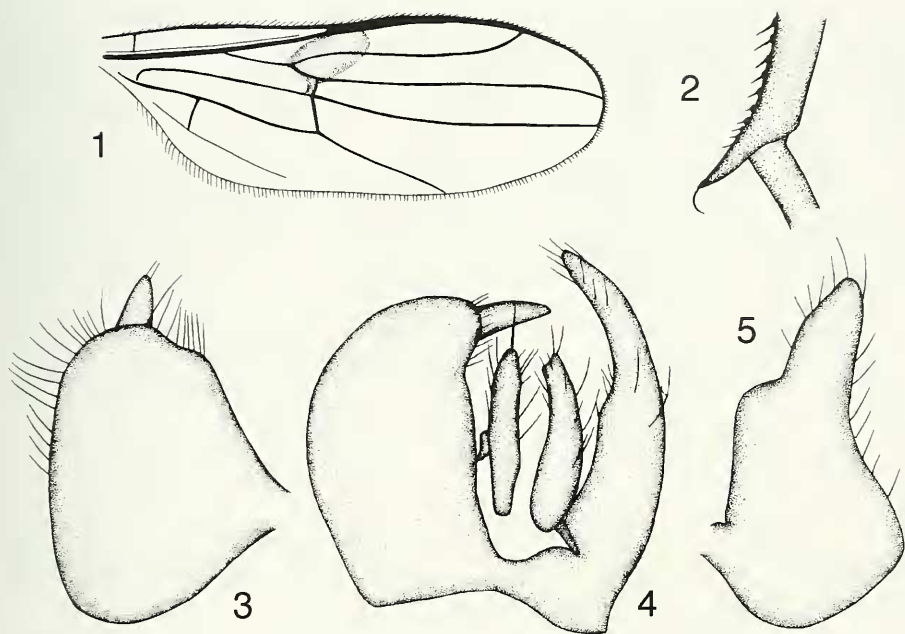
The specific name refers to the maculate wing.

DIAGNOSIS

Mainly black species; head with 2 vt; wing with a brown spot between C and R-M (Fig. 1); legs yellow, but mid and hind coxae black; mid femur black with yellow tip; mid femur with row of pv bristles; mid tibia with long acute apical spur bearing 1 curved apical hair (Fig. 2).

DESCRIPTION

Male. Body length 2.6-2.8 mm, wing length 2.9-3.1 mm.



FIGS 1-5

Platypalpus alamaculatus sp. n, male. 1, wing; 2, apex of mid tibia; 3, right genital lamella; 4, genitalia, dorsal view; 5, left genital lamella.

Head, including occiput and clypeus black, gray microtrichose. Eyes narrowly separated on face; frons wider than face. Jowls in lateral view very narrow, almost invisible. Hairs on head pale, bristles black. Ocellar tubercle with 1 oc and 2 posterior hairs; 2 vt (curved inward vt short). Antenna black; pedicel with a circle of apical hairs; first flagellomere short conical, about 1.3 times longer than wide, with some short pale apical hairs; arista 4.5-4.7 times as long as first flagellomere, black, short pubescent. Proboscis blackish with blackish bristles; palpus brown to blackish with 3 long pale bristles (apical bristle long).

Thorax black, grey microtrichose. Hairs on thorax pale, bristles blackish; 1 short weak h curved medially, 2 npl (anterior npl short), acr in about 4 irregular rows, 1 short psa, long dc and presc absent, scutellum with 2 pairs of sc, basal sc one third as long as apical sc. Legs yellow; fore coxa yellow, mid coxa and posterior half of hind coxa black; mid trochanter black; fore and hind femora yellow, mid femur black with yellow tip; tarsomeres 3-5 of all legs gradually becoming darker towards tip. Hairs on legs blackish, bristles black. Coxae with pale bristles and hairs. Fore femur 1.3 times and mid femur 2.0 times as wide as hind femur; fore femur with one row of short av and one row of long pv (4 apical av the longest); mid femur with two rows of very short black v spine-like bristles (but ventral bristles on basal quarter longer), and with one row of rather long brownish yellow pv; fore tibia with 3 ad, apically with 1 ad; mid tibia (Fig. 2) with a row of short weak black ventral bristles and long acute apical spur

(distinctly longer than thickness of mid tibia) bearing 1 curved apical hair. Wing (Fig. 1) hyaline with a brown spot from tip of cell c running to R-M; veins dark brown, R_{4+5} and M slightly convergent apically; crossveins almost contiguous. Squama yellow with brownish margin, with pale hairs. Halter yellow with brownish yellow base.

Abdomen subshining black, very thinly grey microtrichose. Hairs on abdomen pale. Male genitalia (Figs 3-5): Left genital lamella rather narrow in dorsal view, its apical projection finger-like; right genital lamella rather wide in dorsal view, its apical projection rather small and subtriangular; both cerci equally long, right cercus slightly narrower.

Female. Body length 2.3-2.5 mm, wing length 2.8-3.0 mm. Similar to male, but av and pv on fore femur shorter except 3 bristle-like apical av.

DISTRIBUTION

China (Guangxi).

REMARKS

The new species belongs to the *P. pallidiventris-cursitans* species-group (Chvála, 1989). It can be easily separated from other known species from China by the colouration of legs and wing pattern.

2. *Platypalpus guangxiensis* Yang, C. & Yang, D.

Platypalpus guangxiensis Yang, C. & Yang, D., 1992: 46. Type locality: Guangxi (Tianlin).

DIAGNOSIS

Thorax yellow but scutellum black. Abdomen yellow, but tergites medially and apically brownish. Apical projection of right genital lamella spine-like, left cercus spine-like and curved inwards apically.

DISTRIBUTION

China (Guangxi, Sichuan, Hubei).

3. *Platypalpus maoershanensis* sp. n.

Figs 6-9

MATERIAL

Holotype ♂, CHINA: Guangxi: Maoershan National Nature Reserve, 2100 m, light trap, 5.VII.2003, Shuwen An (CAU).

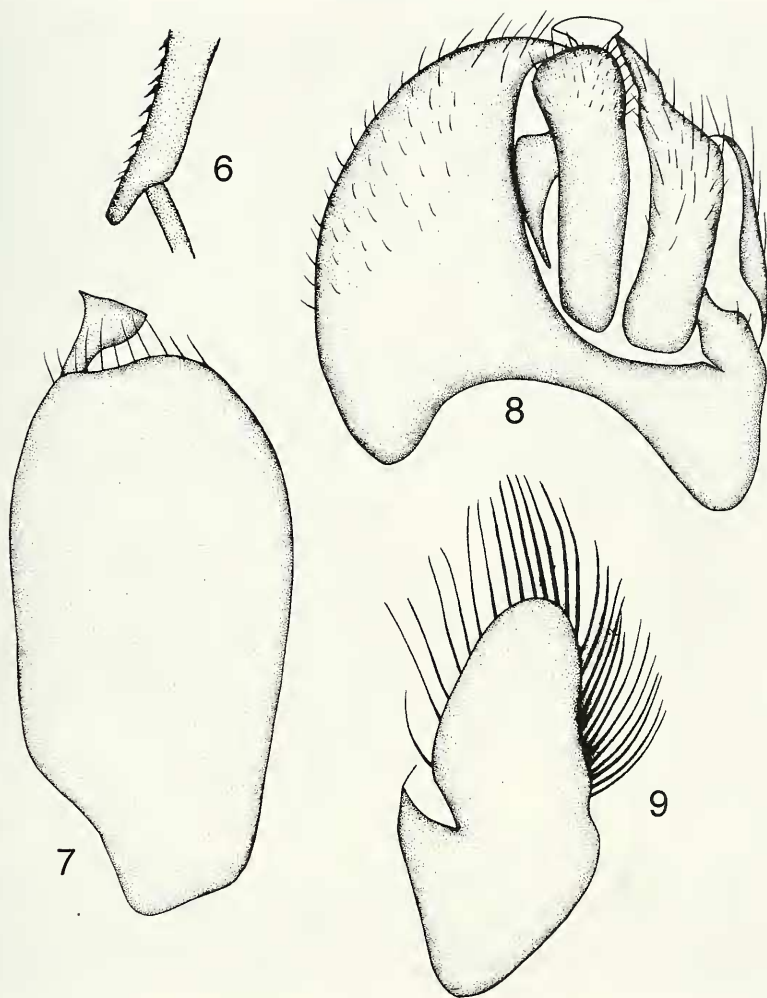
Paratype: 1 ♀. Guangxi: Maoershan National Nature Reserve, Sanjiangyuan, 1900 m, light trap, 30.VI.2003, Shuwen An (CAU).

ETYMOLOGY

The species is named after the type locality.

DIAGNOSIS

Mainly yellow species with 2 vt. Mesonotum subshiny with one rather large, black mid-longitudinal spot; h, dc and row of pv on mid femur absent. Legs yellow with dark brown tarsomere 5. Antenna yellow; first flagellomere short oval.



FIGS 6-9

Platypalpus maoershanensis sp. n, male. 6, apex of mid tibia; 7, right genital lamella; 8, genitalia, dorsal view (long apical bristles on left genital lamella omitted, cf. Fig. 9); 9, left genital lamella.

DESCRIPTION

Male. Body length 2.7 mm, wing length 3.3 mm.

Head black, grey microtrichose. Eyes narrowly separated on face; face slightly narrower than frons. Hairs and bristles on head pale. Ocellar tubercle with 2 oc and 2 posterior hairs; 2 vt. Antenna pale yellow; scape without dorsal hairs; pedicel with a circle of pale apical hairs; first flagellomere short oval, 1.2 times longer than wide, with short pale apical hairs; arista 4.2 times as long as first flagellomere, black, short pubescent. Proboscis yellow with blackish tip, with sparse black hairs; palpus yellow with 4 pale bristles (of which apical bristle is rather long).

Thorax yellow, thinly pale grey microtrichose; mesonotum subshiny with one rather large mid-longitudinal black spot; scutellum, metanotum and lateropleuron (= anatergite & katatergite) (except lateral portion) black. Bristles and hairs on thorax pale; h absent, 2 npl (anterior npl short, hair-like), 1 long psa, short, sparse acr nearly 6-seriate, dc absent, 1 presc (shorter and weaker than psa) in front of scutellum, scutellum with 2 pairs of sc (basal pair 1/3 as long as apical pair). Legs yellow with dark brown tarsomere 5. Bristles and hairs on legs pale; fore coxa with 4 dorsal apical bristles, mid coxa with 4 dorsal apical bristles, hind coxa with 3 dorsal apical bristles. Fore femur weakly and mid femur distinctly thickened, fore femur 1.1 times and mid femur 1.7 times as wide as hind femur; fore femur apically with 1 dorsal bristle, 1 av and 1 pv; mid femur with two rows of spine-like ventral bristles (posterior row slightly longer than anterior row, but basal ventral bristle rather long and mostly brownish yellow), without row of pv; mid tibia with a row of short blackish ventral bristles and finger-like apical spur which is longer than thickness of tibia. Wing hyaline; veins brownish yellow, R_{4+5} and M weakly convergent apically. Squama yellow with pale hairs. Halter yellow.

Abdomen yellow, thinly pale grey microtrichose; tergites 1-5 and hypopygium dark brown. Hairs on abdomen pale. Male genitalia (Figs 7-9): Left genital lamella rather elongate in dorsal view, its apical projection wide and obtuse, apically with long bristles; right genital lamella rather wide in dorsal view, its apical projection very short and with wide apex; left cercus with acute apex, right cercus with wide rounded apex.

Female. Body length 2.8 mm, wing length 3.1 mm. Similar to male.

DISTRIBUTION

China (Guangxi).

REMARKS

This new species cannot be placed in any of the species group defined by Chvala (1989). It is similar to *Platypalpus hamulatus* Yang & Yang, 1989, from Tibet, but the mid-longitudinal spot on mesonotum is uniformly wide. In *P. hamulatus*, the mid-longitudinal spot on mesonotum is widened towards the scutellum (Yang, D. & Yang, C., 1989).

4. *Platypalpus xanthodes* sp. n.

Figs 10-13

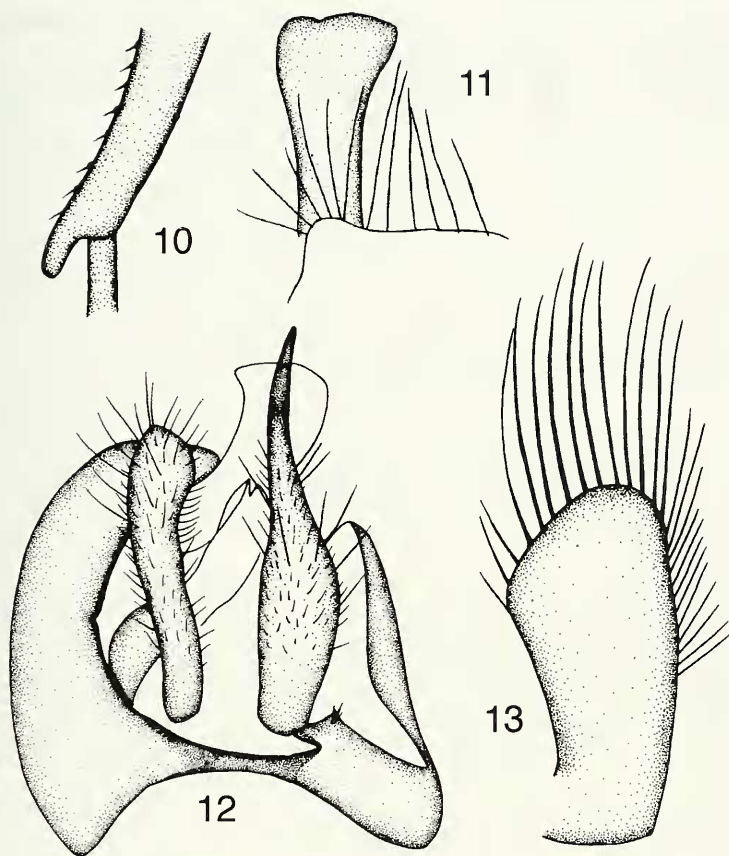
MATERIAL

Holotype ♂, CHINA: Guangxi: Maoershan National Nature Reserve, 1100-1600 m, 29.VI.2003, Xingyue Liu (CAU).

Paratypes: 1♂ 1♀, same data as holotype (CAU); 3♀♀, Guangxi: Maoershan National Nature Reserve, Hongjunting, 1600 m, light trap, 28.VI.2003, Xingyue Liu (CAU); 1♂, 3♀♀, Guangxi: Maoershan National Nature Reserve, Sanjiangyuan, 1900 m, light trap, 30.VI.2003, Xingyue Liu (CAU); 1♂, 3♀♀, Guangxi: Maoershan National Nature Reserve, 350 m, light trap, 3.VII.2003, Shuwen An (MNHG).

ETYMOLOGY

The specific name refers to the yellow thorax and abdomen. It is an invariable epithet.



FIGS 10-13

Platypalpus xanthodes sp. n, male. 10, apex of mid tibia; 11, apical projection of right genital lamella; 12, genitalia, dorsal view (postgonite [?] drawn as contour behind the cerci); 13, left genital lamella.

DIAGNOSIS

A mainly subshining yellow species with only the head capsule black; 2 vt; first flagellomere about as long as wide, arista much longer; 4 irregular rows of acr; mid femur without pv; mid tibia with an obtuse apical spur about as long as diameter of tibia; male cerci very asymmetrical; male left genital lamella with long bristles.

DESCRIPTION

Male. Body length 2.7-3.0 mm, wing length 2.9-3.1 mm.

Head black, grey microtrichose, but frons and face orange-brown microtrichose. Eyes narrowly separated on face; face narrower than frons. Bristles and hairs on head pale. Ocellar tubercle with 1 oc and 2 very short posterior hairs. Jowls almost invisible in lateral view; 2 vt. Antenna yellow; scape without dorsal hairs; pedicel with a circle of mostly pale apical hairs; first flagellomere short oval, 1.1 times as long as

wide, with some hairs; arista very long, 3.5-3.7 times as long as first flagellomere, brown, short pubescent. Proboscis yellow with brown hairs; clypeus yellow, microtrichose; palpus yellow with 3 long pale bristles, the apical one much longer than the others.

Thorax yellow, thinly grey microtrichose; mesonotum subshiny, without darker stripe; katapisternum with indistinct shining yellow spot medially; meron with a small longitudinal, black spot. Hairs on thorax pale, bristles brownish yellow; 1 short hair-like h curved inward, 2 npl (anterior npl short and hair-like), acr in 4-6 irregular rows, dc not longer than acr, 1 long psa, 1 weak presc in front of scutellum, scutellum with 2 pairs of sc (basal pair very short, 1/3 of apical pair). Legs yellow, but tarsomere 5 slightly brownish apically. Hairs on legs pale. Fore femur weakly and mid femur distinctly thickened, fore femur 1.2 times and mid femur 1.7 times as wide as hind femur; mid femur with two rows of short black ventral bristles (posterior row longer than anterior row, but ventral bristles on basal quarter long and brownish yellow), without row of pv; mid tibia (Fig. 10) with a row of blackish ventral bristles, finger-like apical spur about as long as diameter of tibia. Wing hyaline; veins brownish yellow; crossveins contiguous; R_{4+5} and M parallel apically. Squama yellow with pale hairs. Halter yellow.

Abdomen yellow, pale grey microtrichose; hypopygium mostly yellow. Hairs on abdomen pale. Male genitalia (Figs. 11-13): Left genital lamella rather narrow, its apical projection wide and obtuse apically, and with long apical bristles; right genital lamella slightly wide in dorsal view, its apical projection short with wide and obtuse apex; left cercus long with spine-like apex, right cercus shorter with obtuse apex.

Female. Body length 2.7-3.1 mm, wing length 2.8-3.2 mm. Similar to male.

DISTRIBUTION

China (Guangxi).

REMARKS

The new species belongs to the *P. longicornis* species-group of Chvala (1989). It is very similar to *Platypalpus guangxiensis* Yang & Yang from Guangxi, Sichuan and Hubei, but can be separated from the latter by the yellow scutellum and right surstylus with wide obtuse apex. In *guangxiensis*, the scutellum is black, and the right surstylus has an acute apex (Yang, C. & Yang, D., 1992).

CONCLUSIONS

Guangxi belongs to South China which is considered to be part of the Oriental region with a subtropical and tropical climate. Although *Platypalpus* is basically a genus of temperate regions, it is noteworthy that 4 species are known to occur in this province. However, they were all found at higher altitude (above 1000 m, only one record of *P. xanthodes* from 350 m). Among them the three new species are endemic to Guangxi so far. The only already known species has a much wider distribution with records extending to Sichuan and Hubei in Central China region. Taking into account the bad collecting effort in Guangxi it is well possible that more species will eventually be found in this province.

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